

MISSOURI MONTHLY VITAL STATISTICS

Provisional Statistics

From The

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January 2003 Vol. 36 No. 11

Focus...Health Manpower Trends

Each year health professionals complete a survey administered by the Missouri Department of Health and Senior Services on their employment status, work location and demographic characteristics. These surveys are conducted as part of the license renewal process in cooperation with the Missouri Department of Economic Development, Division of Professional Registration. The results of these surveys are used to assess the health professional needs and trends in the state.

The Department of Health and Senior Services began surveying health professionals in the early 1970s. Since that time, 13 different health occupations have been surveyed, most in two-year intervals (varying even or odd years), depending on when professionals renewed their license.

Table 1 displays the professions currently surveyed, with renewal date/year and schedule for survey and renewal mailing. Previously, health professionals renewed their license each year. Starting

with RNs in 1999, the license renewal cycle for health professions occurs every two years. Following is a discussion of Missouri health manpower trends.

Physicians

Physicians, medical (MD) or osteopathic (DO), are generally regarded as the “gatekeepers” for the medical care system. Most physicians are involved in patient care. They are the primary decision-makers in diagnosing illnesses and determining the course of treatment.

In 1991, there were 11,000 licensed physicians who stated they were living and/or working in the State of Missouri. Of this number, 10,095 were employed full time, part time or in-training, reflecting a sizeable increase (68 percent) in the total number of active practice physicians surveyed two decades earlier (1973). Although some parts of the state experienced physician manpower shortages, overall, physician manpower continued to increase

Table 1-Schedule for Health Manpower Surveys

Occupation	Renewal Date	Renewal Year	Survey/Renewal Mailed	2 Year Renewal Started
Physicians	January 31	Even Years	October	2002
RNs	April 30	Odd Years	January	1999
LPNs	May 31	Even Years	February	2000
Dentists	November 30	Even Years	August	2002
Dental Hygienists	November 30	Even Years	August	2002

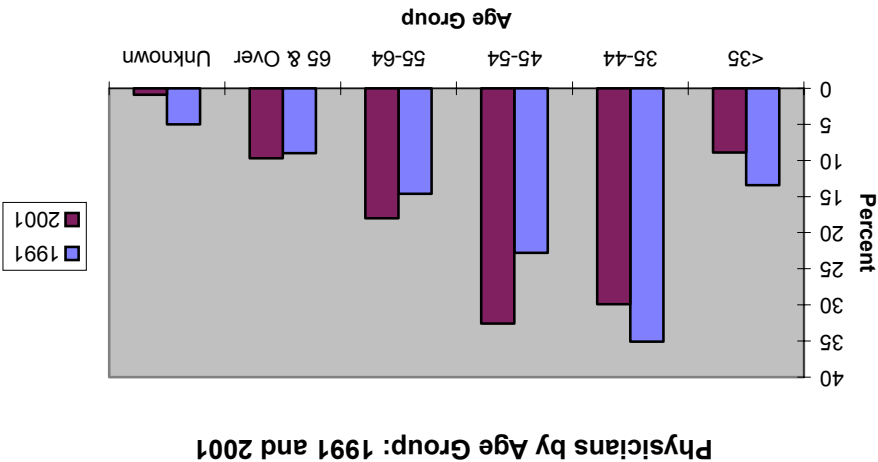


Figure 1

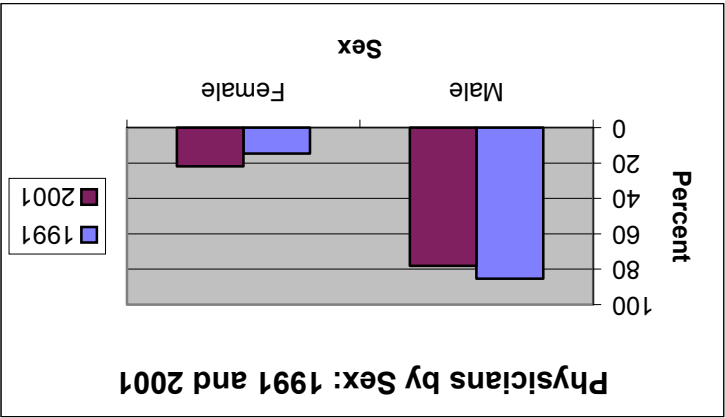


Figure 2

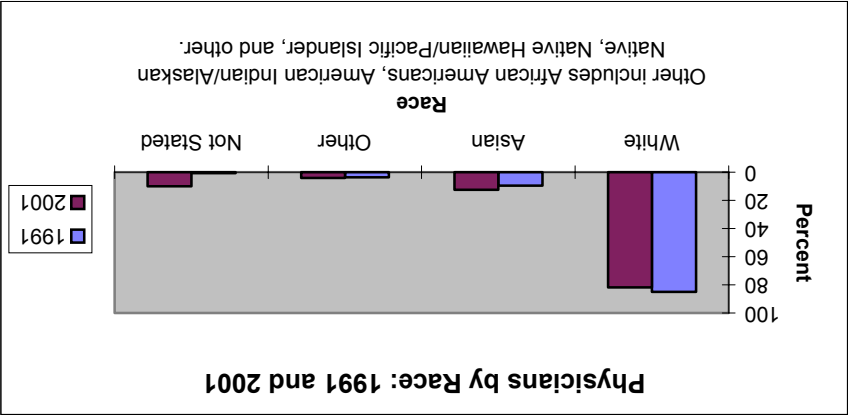


Figure 3

during the nineties and into the millennium. The numbers reported from the 2001 survey showed 13,542 licensed physicians and of these, 12,565 were in active practice. Translated into physicians per 10,000 Missouri residents, the rate has increased from 19.2 in 1991 to 22.3 in 2001.

As with other health professions, the Missouri physician population is aging. Examination of the age distribution during the past decade shows a decrease in physicians under the age of 45 from 48.3 percent in 1991 to 38.8 percent in 2001. Similarly, physicians in the 45-54 age group increased from 22.9 percent in 1991 to 32.6 percent in 2001. (See Figure 1.)

Although most physicians are male, the number of female physicians continues to increase, from

14.7 percent in 1991 to 21.9 percent in 2001. The racial composition of the Missouri physician workforce has changed somewhat in the past decade. The largest portion of physicians are white (82 percent), however the proportion that are Asian has increased from 9.5 percent in 1991 to 14.6 percent in 2001. (See Figures 2 and 3.)

Forty-four percent of all Missouri physicians practice in one of the primary care specialties, which include: internal medicine (17.2 percent), family and general practice (14.3 percent), pediatrics (7.4 percent), and OB/GYN (5.3 percent). Table 2 provides a comparison of the distribution of Missouri physicians in the four major primary care categories, for survey years 1991 and 2001.

Table 2- Distribution of Missouri Physicians by Primary Care Specialty: 1991 and 2001

Primary Care Specialty	1991 (%)	2001 (%)
General or Family Practice	15.0	14.3
Internal Medicine	13.7	17.2
Obstetrics and Gynecology	5.9	5.3
Pediatrics	5.9	7.4

Registered Nurses

Registered nurses (RNs) comprise the largest health profession in Missouri. There were 59,158 licensed RNs residing in the state in 2001, of which 51,413 were in active practice. This reflects an increase from 79.5 to 91.3 RNs per 10,000 population during the decade 1991-2001.

Although Missouri saw an increase of 13,874 RNs between 1981 and 1991, the growth in the number of actively practicing RNs in the following decade (1991-2001) was only 10,727. Most registered nurses are female (92.4 percent) and white (89.9 percent). While these percentages have decreased somewhat from 1991-- when 93.5 percent were female and 92.4 percent were white--the race and sex characteristics of the RN population has not changed much in the past decade.

In 1991, nearly half (46 percent) of all active nurses reported their clinical area of practice as

medical/surgical (34.8 percent) or ICU/CCU (11.3 percent). With the 2001 survey, only 22.3 percent report these two areas of clinical practice (medical/surgical, 12.7 percent and ICU/CCU, 9.5 percent). Operating room nurses show the largest increase from 1.2 percent in 1991 to 6.0 percent for 2001. Table 3 shows the distribution of RNs by clinical practice area. Overall, RNs appear to be gravitating toward more specialized areas of clinical practice.

With the decrease of medical/surgical and ICU/CCU RNs, there is a concomitant decrease in RNs working in the hospital setting, from 74.7 percent in 1991 to 63 percent in 2001. Two settings that showed an increase were office nurse and home health nurse, reporting a 3.3 percent and 2.8 percent increase, respectively. Table 4 shows the distribution of RNs by field or place of employment.

Table 3
Active Registered Nurses by Clinical Practice Area: 1991 and 2001

Clinical Practice Area	1991 (%)	2001 (%)
Medical/Surgical	34.8	12.7
ICU/CCU	11.3	9.5
General Practice	8.3	3.5
Obstetric/Gynecologic	7.3	6.6
Community/Public Health	5.9	5.1
Pediatric	6.6	6.0
Geriatric	6.2	8.1
Psychiatric/Mental Health	6.5	4.7
Emergency Health	3.6	4.8
Oncology	2.7	2.5
Neonatal Care	1.4	2.3
Operating Room Nurse	1.2	6.0
Other*	3.8	17.8
Not Stated	0.4	0.7
13 New Categories for 2001**		9.6

* Other includes Rehabilitation, Utilization Review/Case Management, Hospice and Other

** Includes AIDS, Cardiology, Dermatology, Dialysis, Drug/Alcohol, EENT, Family Health, Neurology, Occupational Health, Orthopedics, Peri-Operative, Transplant, and Urology

Table 4
Active Registered Nurses by Field or Place of Employment: 1991 and 2001

Field or Place of Employment	1991 (%)	2001 (%)
Hospital	74.7	63.0
Nursing Home	5.3	6.5
Community Health	4.3	2.4
Office Nurse	3.9	7.2
School of Nursing	1.9	1.6
School Nurse	2.1	2.7
Occupational Health Nurse	1.0	0.9
Home Health Agency	2.3	5.1
Self-Employed/Private Duty	1.0	0.6
Other	2.9	7.2
Not Stated	0.6	0.4
2 New Categories for 2001*		2.5

* Includes Ambulatory Care/Surgery and Physician Practice as APN

Licensed Practical Nurses

There were 15,797 licensed practical nurses (LPNs) actively practicing in Missouri in 1998. This represents a net increase of only 1,835 since 1988, compared to a net increase of 3,296 in the previous decade (i.e., from 1978 to 1988). This trend can also be observed by comparing the statewide rate per 10,000 residents: 19.8, 27.2 and 28.6 for 1978, 1988 and 1998, respectively. Figure 4

shows how the upward trend in the LPN workforce diminished during the twenty-year period from 1978 to 1998.

As with the RN workforce, LPNs are predominately female (93 percent) and white (84 percent). During the past 10 years, the proportion of male LPNs increased from two percent to five percent. (See Figure 5.)

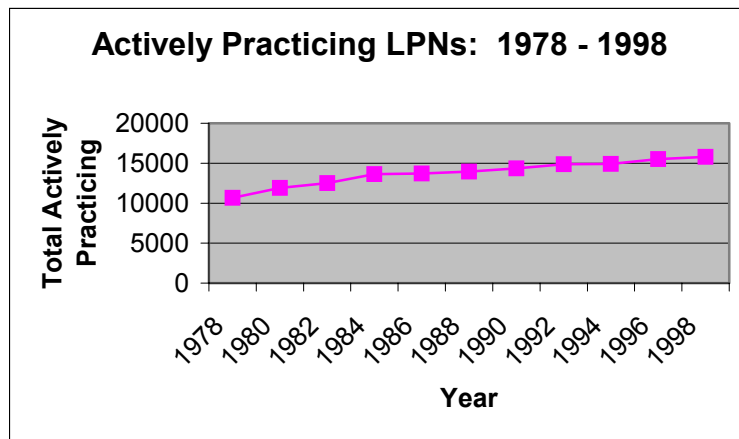


Figure 4

In 1988, about a third of all LPNs cited their clinical activity as medical-surgical (31.5 percent) and a third cited geriatric services (30.9 percent) in 1988. The 1998 survey revealed a large decrease in LPNs working in a medical-surgical capacity (14.5 percent) and a modest increase in those working in geriatric services (36.8 percent). These results are

related to a decrease in LPNs employed in hospitals, from 46.8 percent in 1988 to 27.9 percent in 1998, and an increase in those working in skilled nursing facilities, from 17.1 percent to 28.4 percent in the same ten-year period. Tables 5 and 6 show the distribution of LPNs by clinical practice area and by field or place of employment, respectively.

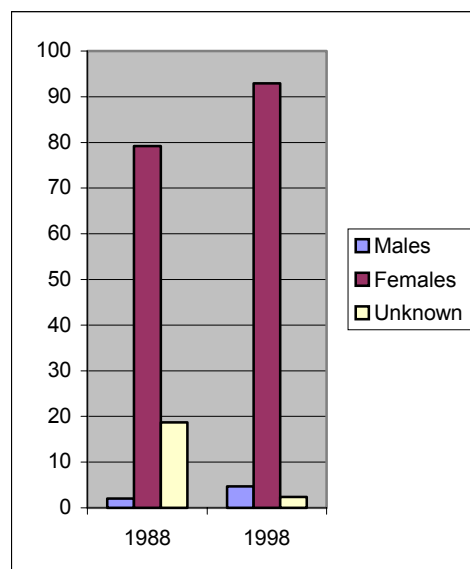


Figure 5

Table 5
Active Licensed Practical Nurses by Clinical Practice Area

Clinical Practice Area	1988 (%)	1998 (%)
Medical/Surgical	31.5	14.5
Geriatric	30.9	36.8
General Practice	11.8	10.6
Obstetric/Gynecologic	5.1	3.4
Private Duty	3.6	2.3
Psychiatric/Mental Health	6.6	4.7
Pediatric	4.0	4.4
Community/Public Health	2.8	3.8
Rehabilitation	2.2	2.1
Other	1.3	13.8
Not Stated	0.1	3.2

Table 6
Active Licensed Practical Nurses by Field or Place of Employment

Field or Place of Employment	1988 (%)	1998 (%)
Hospital	46.8	27.9
Skilled Nursing Facility	17.1	28.4
Other Nursing Home	13.0	6.8
Office Nurse	10.0	13.7
Private Duty	3.6	2.0
Community Health	3.5	1.5
Home Health Agency	2.2	5.1
Nursing Service/Agency	1.7	1.1
Industrial Nurse	0.6	.9
Other	1.4	9.6
Not Stated	0.2	3.1

Dentists

The availability of actively practicing dentists in Missouri, and especially those accessible to low-income groups, has been a concern for more than a decade. In 1986, there were 2,644 working dentists in the state, decreasing to 2,639 in 1988 and increasing only slightly in 1990 to 2,645; or 5.2 dentists per 10,000 Missouri residents. In the following decade, the decrease continued. In 2000, there were only 2,593 actively practicing dentists in Missouri, equivalent to 4.6 dentists per 10,000 Missouri residents.

In addition to reduced numbers, the workforce of actively practicing dentists is also aging. Figure 6 shows the decline in the percentage of dentists under the age of 45 from 1990 to 2000. Correspondingly, the percentage of dentists in the older age groups increased during the decade. In 1990, there were 546 dentists (20.6 percent) in the age group 45-54; by the year 2000 the number of dentists in this age group was 1028 (39.6 percent).

The race and sex characteristics of Missouri dentists have not changed much in the last ten years.

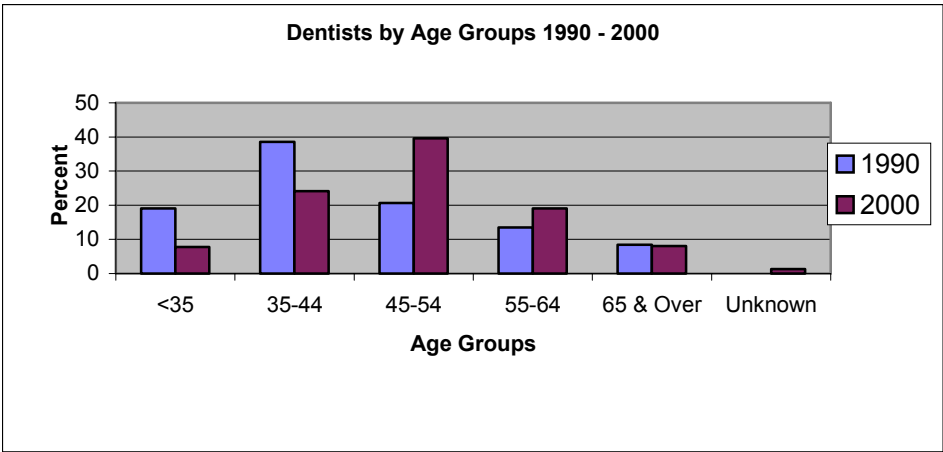


Figure 6

In 1990, 93 percent of all dentists were white and male. The 2000 survey showed only slight changes, with 91 percent male and 88.4 percent white. General practice continues to be the main practice area of Missouri dentists: 83 percent in 1990 and 81 percent in 2000.

Dental Hygienists

In 1990 there were 1,270 dental hygienists licensed in Missouri, with 1,040 actively practicing. Between 1990 and 2000, the state saw an increase of almost 500 additional licensed dental hygienists (1,750) and an increase of more than 500 to the ranks of those who are actively practicing (1,564).

There were 40 dental hygienists for every 100 dentists in the 1990 survey results. This ratio increased to 60:100 in 2000. The dental hygienist field remains predominately female (99.2 percent), white (95.6 percent) and working in a private dental office (95.5 percent).

The most noticeable change in the dental hygienist workforce is the age distribution. In 1990, 52 percent (540) of the active dental hygienists were under the age of 35, another 37.8 percent (393) were age 35-44, and 8.5 percent (89) were in the 45-54 age group. By 2000, the percent under 35 dropped to 24.4 percent, with increases in both the 35-44 and 45-54 age groups to 38.3 percent and 27.2 percent, respectively. (See Figure 7.)

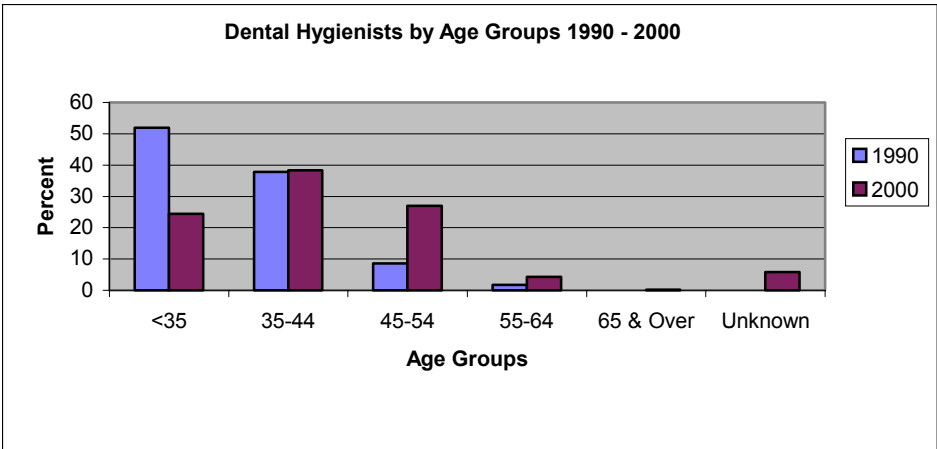


Figure 7

Summary highlights of health manpower trends:

- The demographics of the Missouri's health manpower resources reveal aging physician, dentist and dental hygienist workforces.
- While little change has occurred in the racial composition of most health professions in the state, there has been an increase in the percentage of Asian physicians.
- The sex distribution for physicians and licensed practical nurses has changed slightly, with more female physicians and more male nurses.
- The percentage of physicians working in internal medicine and pediatrics has increased over the past decade.
- Both RNs and LPNs show a dramatic shift away from medical-surgical services into other clinical practice areas.
- The number of actively practicing dentists in Missouri has been slowly declining, however the ratio of dental hygienists to dentists has increased from 40:100 to 60:100.

Provisional Vital Statistics for November 2002

Live births decreased very slightly in November as 5,631 Missouri babies were born compared with 5,660 in November 2001. Cumulative births for the 11- and 12- month periods ending with November both increased slightly, while the birth rate did not change.

Deaths decreased in November as 4,065 Missourians died compared with 4,340 one year earlier. However, cumulative deaths for the 11- and 12- month periods both increased.

The **Natural increase** for November was 1,566 (5,631 births minus 4,065 deaths). For the 11- and

12- month periods ending with November, the natural increase declined.

Marriages increased slightly for all three time periods shown below, while **dissolutions of marriage** decreased for the same time periods. For the 12 months ending with November, the marriage to divorce ratio increased from 1.78 to 1.84.

Infant deaths increased for all three time periods shown below. For January-November the infant death rate increased from 8.1 to 8.6 per 1,000 live births.

PROVISIONAL VITAL STATISTICS FOR NOVEMBER 2002

Item	<u>November</u>				<u>Jan.-Nov. cumulative</u>				<u>12 months ending with November</u>				
	<u>Number</u>		<u>Rate*</u>		<u>Number</u>		<u>Rate*</u>		<u>Number</u>		<u>Rate*</u>		
	<u>2001</u>	<u>2002</u>	<u>2001</u>	<u>2002</u>	<u>2001</u>	<u>2002</u>	<u>2001</u>	<u>2002</u>	<u>2001</u>	<u>2002</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Live Births	5,660	5,631	12.6	12.9	69,352	69,781	13.5	13.5	75,672	75,958	13.7	13.4	13.4
Deaths	4,340	4,065	9.7	9.3	50,657	51,994	9.9	10.1	54,725	55,664	9.8	9.7	9.8
Natural increase	1,320	1,566	2.9	3.6	18,695	17,787	3.6	3.4	20,947	20,294	3.9	3.7	3.6
Marriages	2,739	3,057	6.1	7.0	39,485	39,700	7.7	7.7	42,082	42,301	7.9	7.5	7.5
Dissolutions	1,939	1,746	4.3	4.0	21,574	20,967	4.2	4.1	23,604	22,951	4.5	4.2	4.1
Infant deaths	39	41	6.9	7.3	564	602	8.1	8.6	598	642	7.2	7.9	8.5
Population base (in thousands)	...	...	5,637	5,673	...	...	5,637	5,673	...	...	5,591	5,633	5,663

* Rates for live births, deaths, natural increase, marriages and dissolutions are computed on the number per 1000 estimated population. The infant death rate is based on the number of infant deaths per 1000 live births. Rates are adjusted to account for varying lengths of monthly reporting periods.

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